

REMARKS

Reconsideration of this Application is respectfully requested. In response to the Office Action mailed November 16, 2005, Applicants seek to cancel claim 32, add new claim 36, and amend claims 1-31, and 33-35, and there entry is respectfully requested. No new matter is added and the amendments are made to now even more clearly set forth the claimed invention, to advance prosecution and to place the claims in better condition for appeal. Claims 1-36 will be pending.

Based on the above Amendment and the following Remarks, Applicants respectfully request that the Examiner reconsider and withdraw all outstanding objections and rejections.

Terminal Disclaimer Recorded

Applicants note the Examiner acknowledges the recording of the previous terminal disclaimer.

Claim Rejections Under 35 U.S.C. §112, 2nd paragraph

On page 2, the Action rejects claims 3-4, 6-9, 12 and 17 under 35 U.S.C. §112, 2nd paragraph as failing to particularly point and distinctly claim the invention.

Applicants have amended the claims and believe the rejections now moot. The applicants respectfully note that as to claim 12, that the conductivity nose assembly is not vague or indefinite, as clearly shown in the application to include a removable nose cone with conductivity dipoles as will be apparent to those skilled in the art and as shown in FIGs. 4A and 4B, and the accompanying description. Applicants respectfully request reconsideration and withdrawal of all rejections under 112 2nd paragraph.

Claims 6-14, 19-21, and 25-35 are believed to be in condition for allowance as written and allowance thereof is respectfully requested.

Rejections under 35 U.S.C. § 102

On page 4, the Action at paragraph 6 rejects claims 1-5 as anticipated by "A Permeable Membrane Sensor For The Detection of Volatile Compounds in Soil" by Christy (hereinafter Christy). Applicants respectfully traverse this rejection.

(A) For at least the following reasons, Christy does not anticipate amended claim 1.

Amended claim 1 recites “A driveable membrane interface probe apparatus comprising: a driveable membrane interface probe (MIP) housing having **a diameter of at least 2.125 inches.**” (Emphasis added).

Christy does not teach or suggest that the diameter of cylindrical housing 12 is at least about 2.125 inches (see Christy). At best, Christy teaches a membrane interface probe of diameter 1.5 inches, the conventional size of conventional membrane interface probes. No where in Christ is there any discussion of, teaching or suggestion of any MIP of diameter greater than 1.5 inches. Thus, Christy does not teach or suggest “a membrane interface probe (MIP) housing having **a diameter of at least 2.125 inches**” (emphasis added), as recited in amended claim 1. Therefore, amended claim 1 is in condition for allowance and allowance thereof is respectfully requested.

Claims 2-5 and new claim 36, which depend from allowable claim 1, are also in condition for allowance because of their dependence on an allowable claim.

(B) For at least the following reasons, Christy also does not anticipate, teach or suggest two or more permeable membranes of claim 5. Applicants respectfully note that Christy merely teaches a single permeable membrane sensor mounted in a block, which, as shown in greater detail in Christy’s U.S. Patent 5,639,956, the contents of which were incorporated in Applicants’ application by reference. Thus, claim 5 is also patentable over Christy for this reason.

Also on page 4, the Action at paragraph 7 rejects claims 6-35 as anticipated by U.S. Patent 6,405,135 to Adrian (hereinafter Adrian). Applicants respectfully traverse this rejection.

Amended claim 6 recites “a **driveable** membrane interface probe (MIP) housing comprising **two or more permeable membranes** on a periphery of said driveable MIP housing; and/or a driveable membrane interface probe (MIP) housing comprising a cylindrical portion comprising **two or more permeable membranes** coupled about a periphery of said cylindrical portion, wherein said two or more permeable membranes are adapted operative to provide circumferential sensing”.

For similar reasons as discussed above with reference to claim 5, Adriany also does not teach two or more permeable membranes of claim 6. At best, Adriany sets forth a housing having one permeable membrane. Also, Adriany is not “driveable” as required for the claims, as amended. Adriany instead sets for a stationary monitoring system. An Adriany system is an alarm system which is placed permanently into the ground to monitor subsurface conditions. Unlike Adriany, Applicants’ claimed invention is driveable. Applicants’ claimed invention may be driven as described in claims 2-4 by a driveable rod system, by driveable push and hammer systems, and by driveable low sidewall support drive rod string applications as are well known in the relevant art. Adriany on the other hand sets for a monitoring sensor buried in a hole in the ground. Christy is driveable, but it fails to teach or suggest two or more permeable membranes. Thus claim 6 is patentable over the applied references, since neither Adriany nor Christy teach or suggest all the elements of the claimed invention.

Claims 7 and 8 are therefore also patentable as dependent on an allowable claim.

On page 5, the Action rejects claim 9 as anticipated by Adriany.

Amended claim 9 recites “a **driveable** membrane interface probe (MIP) housing comprising at least one of a **removable waterproof electrical coupling operative to couple and decouple one or more electrical wires, and/or cables** from said MIP housing, and a removable O-ring mechanical coupling operative to couple and decouple mechanically at least one of conduit and/or tubing to said MIP housing, wherein at least one of said waterproof electrical coupling and/or said O-ring mechanical coupling are watertight.” First, Adriany does not teach or suggest a driveable MIP. Second, Adriany fails to teach or suggest an electrical coupling that is removable, instead Adriany indicates the electrical cabling is anchored as shown in the cross-sectional view of FIG. 3 of Adriany and is not capable of being decoupled as required by the claim. Since Adriany is not capable of being electrically coupled and recoupled, it is also not capable of being electrically coupled and recoupled in a watertight manner. It is further important to note that Christy also fails to teach or suggest a waterproof electrical coupler capable of being coupled and decoupled. The conventional probe of Christy thus often fails from water related issues. If an electrical problem

occurs using the MIP of Christy, the entire unit must be replaced since it is a single unit, is not capable of being electrically, or mechanically coupled and decoupled and is not watertight.

On page 5, the Action rejects claim 10 as anticipated by Adriany.

Amended claim 10 recites “a **driveable** modular membrane interface probe (MIP) housing comprising a plurality of modular components allowing field serviceable **replacement** of any malfunctioning components of said plurality of modular components, and wherein said driveable modular MIP housing is operative to receive in a cavity one or more operator-selectable elements. First, Applicants MIP housing is driveable, and Adriany is not. Also, Adriany at best notes the ability to repair or adjust, but does not teach or suggest replacement. Christy although driveable does not teach or suggest a plurality of modular field replaceable components. If Christy’s MIP malfunctions, the entire MIP must be replaced. As shown in Applicants’ FIGs. 4A-4E, Applicants’ MIP is modular and includes a plurality of components. Thus, claim 10 is patentable over the applied references.

For at least the same reasons that claim 10 is patentable, claims 11- 14 are also patentable as dependent on a patentable claim.

On page 5, the Action rejects claim 15 as anticipated by Adriany.

Amended claim 15 recites “A membrane interface probe apparatus comprising: a **driveable** membrane interface probe (MIP) comprising an internal **removable** trap for the collection and/or concentration of one or more volatile organic compounds. On page 4, the Action asserts that Adriany’s housing 28 teaches a removable trap. Applicants respectfully disagree. Housing 28 is not a removable trap as required by the claim. Further, Adriany fails to teach or suggest a driveable MIP as noted above. Christy also fails to teach or suggest a removable trap. Thus, claim 15 is patentable over the applied references.

Claims 16-18, which depend from allowable claim 15, are also in condition for allowance because of their dependence on an allowable claim.

On page 6, the Action rejects claim 19 as anticipated by Adriany.

Amended claim 19 recites “a **driveable** membrane interface probe (MIP) comprising a **heated vapor transfer line for transport of vapors** collected by the driveable MIP from a body of said MIP to a surface detector suite adapted to minimize loss of volatile organic compounds in a cold transfer line.” First, Adriany is not driveable. Second, Adriany’s temperature compensator 86 is an electrical circuit that responds to temperature variation, but does not teach or suggest a heated vapor transfer line for transport of vapors, as set forth in claim 19. Thus, claim 19 is patentable over Adriany.

On page 6, the Action rejects claim 20 as anticipated by Adriany. At page 7, at paragraph 8, claim 20 is rejected under 102(b) over U.S. Patent 5,970,804 to Robbat (hereinafter Robbat). Applicants disagree.

Amended claim 20 recites “a **driveable** membrane interface probe (MIP); an enhanced scanning solutions module operatively coupled to said driveable MIP; and a sample introduction system coupled to said driveable MIP **operative to introduce calibration gas and to allow for simultaneous sampling of an in situ volatile organic gas stream for chromatographic analysis.**” MIP. Christy may be driveable but fails to teach or suggest a sample introduction system or scanning solutions module as claimed. Robbat fails to teach or suggest sampling and analysis of an “in situ” gas stream. Claim 20 thus is allowable over the applied references.

Claims 25-35 depend from allowable claim 20 and are therefore also allowable for at least these reasons.

Further, claim 25 also sets forth, *inter alia*, “said flow control subsystem is **operative to be at least one of configured and/or reconfigured to include a plurality of operator-selectable measurement subsystems**, operative to be coupled to said driveable MIP housing, prior to **exhaust**”. Adriany and Robbat also fail to teach or reasonably suggest a “operative to be at least one of configured and/or reconfigured to include a plurality of operator-selectable measurement subsystems... prior to exhaust” according to claim 25. Claims 26 and 27 are dependent on allowable claim 25 and thus are also allowable for at least these reasons.

Claim 28 has language similar to allowable claim 25. Claim 28 sets forth, *inter alia*, “the enhanced scanning solutions module is **operative to be at least one of configured and/or**

reconfigured to include a plurality of operator-selectable measurement subsystems, operative to be coupled to said driveable MIP housing, **prior to exhaust**". For similar reasons to those noted with reference to claim 25, claim 28 is also patentable over the applied references.

Claims 29-31 and 33-35 are also patentable for at least these reasons as dependent from allowable claim 28.

On page 6, the Action rejects claim 21 as anticipated by Adriany.

Amended claim 21 recites inter alia, "a **driveable** membrane interface probe (MIP) housing operative to gather data; a **global positioning system (GPS) receiver** operative to identify a location of said driveable MIP housing; a data acquisition system operative to geo-reference said data with said location." Adriany is not driveable. Further Adriany has fixed, known locations of its monitoring sensors so no GPS receiver is needed (nor taught or suggested) to determine a location of the sensors, and Adriany does not need to georeference MIP data, it is already at a known, fixed location. At best Adriany could use a GPS to help send someone to a monitor sensor that has triggered an alarm. Claim 21 is thus allowable over Adriany for at least these reasons.

On page 6, the Action rejects claim 22 as anticipated by Adriany.

Amended claim 22 recites "a **driveable** membrane interface probe (MIP) housing coupled to a mobile device in wireless communication with a data acquisition system enabling near real-time transfer of data from said MIP housing to said data acquisition system." As previously noted, Adriany is not driveable. Christy is driveable, but fails to teach or suggest wireless communication in near realtime. Claim 22 is allowable over the applied references.

Claims 23 and 24 depend from allowable claim 22 and are therefore also allowable.

Accordingly, claims 1-36 are in condition for allowance and allowance thereof is respectfully requested.

Conclusion

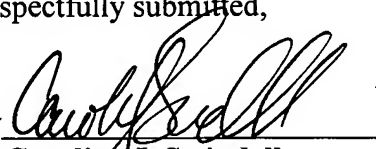
All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

Dated: April 12, 2006

Respectfully submitted,

By



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